

CLAIMS

What is claimed is:

1. A control system for a plastics processing machine, comprising:
a central processing unit executing a real-time operating system,
a plurality of actuators and/or sensors connected via a bus system to the central processing unit, with at least one actuator and/or at least one sensor being directed to a rapidly fluctuating variable with a high resolution, and
at least one first pre-processing unit having at least one ASIC or FPGA,
wherein the plurality of actuators and/or sensors, of which at least one is directed to a rapidly fluctuating variable with a high resolution, is connected with the first pre-processing unit, and
wherein the first pre-processing unit is connected with the central processing unit via the bus system.
2. The control system of claim 1, and further comprising a second processing unit having a CPU and disposed between the bus system and the first pre-processing unit.
3. The control system of claim 1, and further comprising an I/O system directly disposed on the bus system.

4. The control system of claim 2, and further comprising an I/O system disposed on the second processing unit connected downstream of the bus system.
5. The control system of claim 1, wherein the at least one first pre-processing unit is adapted to preprocess signals and match drivers for the sensors and/or the actuators, and to calibrate the sensors and/or the actuators.
6. The control system of claim 1, wherein the bus system is implemented as a serial bus.
7. The control system of claim 1, wherein the central processing unit includes an input device and a monitor.
8. The control system of claim 7, wherein the input device is a keyboard.
9. The control system of claim 1, wherein the at least one first pre-processing unit is configured to relieve the central processing unit from communicating via the bus.
10. The control system of claim 2, wherein the second pre-processing unit is configured to relieve the central processing unit from communicating via the bus.

11. A control system for a plastics processing machine, comprising:
a central processing unit executing a real-time operating system,
a plurality of actuators and/or sensors connected via a bus system to the central processing unit, with at least one actuator and/or at least one sensor being directed to a rapidly changing variable with a high resolution, and
at least one pre-processing unit having at least one ASIC or FPGA arranged between the bus system and the central processing unit.
12. The control system of claim 11, wherein the bus system is implemented as a serial bus.
13. The control system of claim 11, wherein the central processing unit includes an input device and a monitor.
14. The control system of claim 13, wherein the input device is a keyboard.
15. The control system of claim 11, wherein the pre-processing unit and/or the other pre-processing unit are configured to relieve the central processing unit from communicating via the bus.

16. A control system for a plastics processing machine, comprising:
a central processing unit executing a real-time operating system,
a plurality of actuators and/or sensors connected via a bus system to the central processing unit, with at least one actuator and/or at least one sensor being directed to a rapidly fluctuating variable with a high resolution,
at least one first pre-processing unit having at least one ASIC or FPGA and connected with the central processing unit via the bus system; and
a second pre-processing unit having at least one ASIC or FPGA and disposed between the bus system and the central processing unit,
wherein the plurality of actuators and/or sensors, of which at least one is directed to the rapidly fluctuating variable with high resolution, is connected with the first pre-processing unit.
17. A control system for a plastics processing machine, comprising:
a central processing unit executing a real-time operating system;
a first operating element responsive to a fluctuating variable with a high resolution and operatively connected to the central processing unit via a bus system; and
a first pre-processing unit having at least one ASIC or FPGA and disposed in the bus system between the central processing unit and the first operating element for locally processing the first operating element.

18. The control system of claim 17, wherein the operating element is a member selected from the group consisting of actuator and sensor.
19. The control system of claim 17, and further comprising a second said operating element connected to the bus system.
20. The control system of claim 17, and further comprising a second said pre-processing unit disposed on the bus system between the central processing unit and the first pre-processing unit.
21. The control system of claim 17, and further comprising an I/O system directly disposed on the bus system.
22. The control system of claim 17, and further comprising a further central processing unit operatively connected to the first central processing unit via a second bus system, and an I/O system disposed on the second bus pre-processing unit connected downstream of the bus system.
23. The control system of claim 17, wherein the bus system is implemented as a serial bus.